

## ABSTRACT

A pnp bipolar junction transistor is formed with improved emitter efficiency by reducing the depth of the p well implant to increase carrier concentration in the emitter and making the emitter  
5 junction deeper to increase minority lifetime in the emitter. The high gain BJT is formed without added mask steps to the process flow. A blanket high energy boron implant is used to suppress the isolation leakage in SRAM in the preferred embodiment.